

CONSTRUCTION STANDARD SPECIFICATION
SECTION 15901
SYSTEM COMPONENT CHECKOUT AND BALANCE

	<u>Page</u>
<u>PART 1 - GENERAL</u>	
1.01 Summary	2
1.02 Submittals	2
 <u>PART 2 - PRODUCTS</u>	
2.01 Instrumentation	2
 <u>PART 3 - EXECUTION</u>	
3.01 Review	3
3.02 Component Checkout.....	3
3.03 System Balancing.....	3
3.04 System Testing.....	3
3.05 Test Report.....	3

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PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes Sandia National Laboratories (SNL) furnished checkout and system balancing.
- B. Contractor is responsible for the following:
 - 1. System shall be functioning prior to Test and Balance (TAB).
 - 2. Provide joint and cooperative effort to coordinate the test and balance.
 - 3. Solve problems in balancing and controls in order to establish proper system performance before leaving the job.
 - 4. Provide TAB Agency with complete set of Project Drawings and submittals.
 - 5. Provide and install new sheave(s) and new belts, as required, if change in fan speed is necessary and cannot be made by adjusting originally-installed sheave.

1.02 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract, and Section 01330, "Submittal Procedures."
- B. Test Report: Submit in accordance with specified requirements of Part 3.

PART 2 - PRODUCTS

2.01 INSTRUMENTATION

Comply with instrument requirements for Agency qualifications as published in the Associated Air Balance Council (AABC) "National Standards for Total System Balance," Volume 4.

PART 3 - EXECUTION

3.01 REVIEW

TAB Agency, when requested, will review systems plans and specifications prior to installation, and submit a report of deficiencies, which could preclude proper system adjusting, balancing, and testing.

3.02 COMPONENT CHECKOUT

- A. Check dampers for travel and close off.
- B. Operate rotating equipment to verify equipment integrity and that it is the proper equipment. Record equipment nameplate data.

3.03 SYSTEM BALANCING

- A. Adjust duct air volume to within 5 percent of design and diffuser air volumes to within 10 percent of design.
- B. Adjust water volumes to within 5 percent of design whenever balancing cocks or flow meters are installed.

3.04 SYSTEM TESTING

- A. Test safety limits to ensure each performs proper function.
- B. Place each system in all normal modes of operation to verify proper control logic.
- C. Test cooling towers per AABC "National Standards for Total System Balance."
- D. Perform operating test of mechanical systems periodically, recording pertinent operating data.

3.05 TEST REPORT

Submit five copies of final test report that include the following information:

- A. Rotating Equipment: Complete nameplate data and equipment schedule number.

Design and actual operating data, including inlet and outlet data, flow rates, amps, voltage and rpm.
- B. Duct and Diffuser: Design and actual volumes, with diagram showing flow measurement points.
- C. Water Flow: Design and actual flow rates, with diagram showing flow measurement points.

- D. Coil air pressure drop, filter pressure drop, and fan static pressure.
- E. Flow rates, temperatures, and pressures across each water coil, condenser and other heat exchangers.
- F. Heating Equipment: Nameplate data, equipment schedule number design data, and operating data at maximum achievable load conditions.
- G. Sound Level Data: Provide sound level data, equipment schedule number, and provide sketch showing test point locations when equipment schedules specify maximum sound levels for various items.

END OF SECTION